

[54] **APPARATUS AND METHOD  
 DETERMINING THE VALUE OF A  
 CAPACITANCE**

[75] **Inventor:** Steven J. Carusillo, Elkhart, Ind.

[73] **Assignee:** Johnson Service Company,  
 Milwaukee, Wis.

[21] **Appl. No.:** 532,017

[22] **Filed:** Sep. 14, 1983

[51] **Int. Cl.<sup>4</sup>** ..... G01R 11/52; G01R 27/26

[52] **U.S. Cl.** ..... 324/60 CD

[58] **Field of Search** ..... 324/60 CD, 60 C;  
 340/870.37; 73/718, 724

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*Primary Examiner*—Stanley T. Krawczewicz  
*Attorney, Agent, or Firm*—Larry L. Shupe; Joseph J.  
 Jochman, Jr.; John P. Ryan

[57] **ABSTRACT**

An apparatus useful in determining the value of a capac-

itor includes a first bilateral switch for flowing a charging current through a resistive element to an initially-depleted first capacitor of known value. The first capacitor is thereby charged to the potential of a trigger reference over a resulting first time period. A second bilateral switch is provided for flowing a charging current through the same resistive element to an initially-depleted second capacitor, thereby charging it to the potential of the same trigger reference over a resulting second time period. A device such as an oscilloscope or frequency counter is used for determining these time periods and the value of the unknown second capacitor may thereupon be computed using disclosed formulas.

A method for determining the value of a capacitor includes the steps of flowing a charging current through a resistive element to an initially-depleted first capacitor of known value, thereby charging this capacitor to the potential of a trigger reference over a resulting first time period. A charging current is then caused to flow through the same resistive element to an initially-depleted second capacitor for charging it to the potential of the trigger reference over a resulting second time period. The value of the second capacitor is then computed by utilizing the first time period, the second time period and the value of the first capacitor.

**14 Claims, 11 Drawing Figures**

